

Relay J is activated with the ball in the hole when the motor is at position 10 (as long as the bonuses are not at position "0") and this relay remains activated up to motor position 28.

Double Bonuses (relay I) are achieved when activating relay Q (ramp relay) as long as the series A,B,C,D,E has been achieved. The bonus score is marked up by means of relay J, giving 5 impulses (simple bonus) or 4 impulses (double bonus), depending on whether the relay I is activated or not.

Pages Circuits

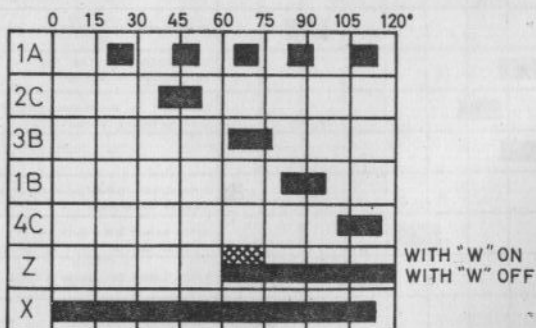
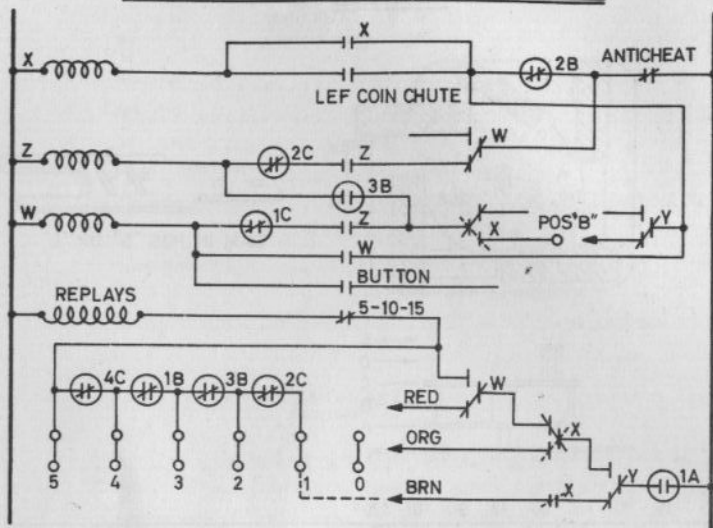
A	-	Motor
B	-	Left Hand Coin Mechanism
C	-	Centre Coin Mechanism
D	-	Right Hand Coin Mechanism
E	-	Rejector Adjustment
F	-	Start
G	-	Zeroing of Score Counters
I	-	Entry of 2nd, 3rd and 4th Players and Deduction of Plays
J	-	Ball Return
K	-	Game Over
L	-	Beginning of Ball and Extra Ball
N	-	Anti-Cheat and Out-out Units
P	-	Score Unit
Q	-	Score Replays
R	-	Relay LT (000-900)
S	-	Electronic Sound
T	-	Bumpers, Flippers and Rubber Kickers
U	-	Bonus



LADY LUCK

SERVICE MANUAL

LEFT HAND COIN MECHANISM



When inserting the coin, Relay X is activated which via circuit 1A, Y, X provides the number of plays (preset for 1 to 5) (Brown male).

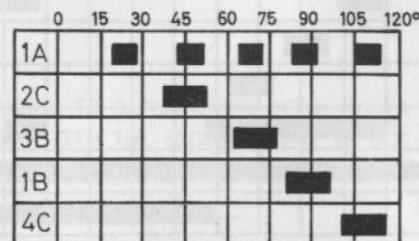
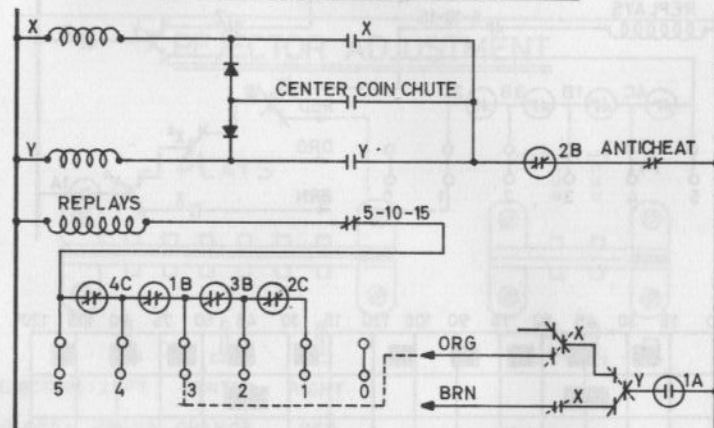
One more play with the second coin:

Whilst the motor is in position 3B, Relay X activates Relay Z which remains activated up to the end of the cycle, until Relay W is activated.

If you do not press the Play button when inserting the second coin, Relay X will be activated and will perform the same function as with the first coin, but also via circuit Y, X, Z and 1C it will activate Relay W which will give us the Start and will return Relay Z to the rest position.

Relay W can be tripped either by pressing the Play button or by inserting another coin.

CENTER COIN MECHANISM

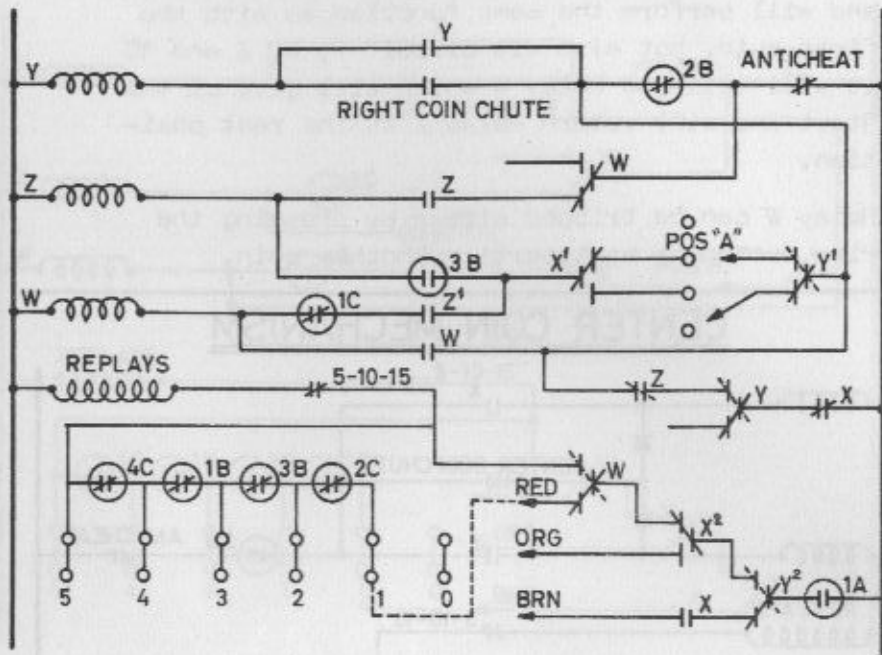


When inserting the coin, Relays X and Y are activated and remain so during the time that the motor is at position 2B.

The number of plays is set with the Orange male connector, offering a possibility from 1 to 5 plays.

(D)

RIGHT HAND COIN MECHANISM



	0	15	30	45	60	75	90	105	120	15	30	45	60	75	90	105	120°	
1A		■		■		■	■	■		■		■	■	■	■			
2C				■	■							■	■					
3B						■	■								■	■		
1B							■	■								■	■	
4C								■	■								■	■
Z				■	■	■	■	■	■						■	■		
Y	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
W										■	■	■	■	■	■	■	■	■

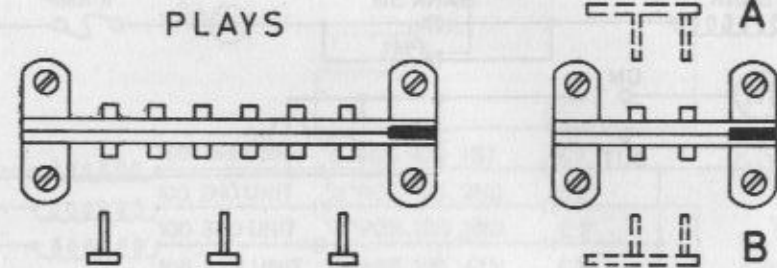
When inserting the coin, Relay Y is tripped, by which means we can obtain 1-5 plays adjusting the Red Male connector.

(E)

More than 5 plays

Whilst the motor is at position 3B, relay Z is activated which via the circuit formed by X, Y, Z leaves us with the position 2B of the motor out of action, and therefore relay Y is not deactivated at the end of the first cycle of the motor. On the second cycle Relay Z via circuit Y', X', Z', 1C trips Relay W which cuts the auto-maintenance of Relay Z. Relay W places the machine at the Start position and at the same time gives 5 plays more via the circuit 1A, Y², X', .

REJECTOR ADJUSTMENT



REJECTORS: LEFT CENTER RIGHT
 COLORS: BROWN ORANGE RED

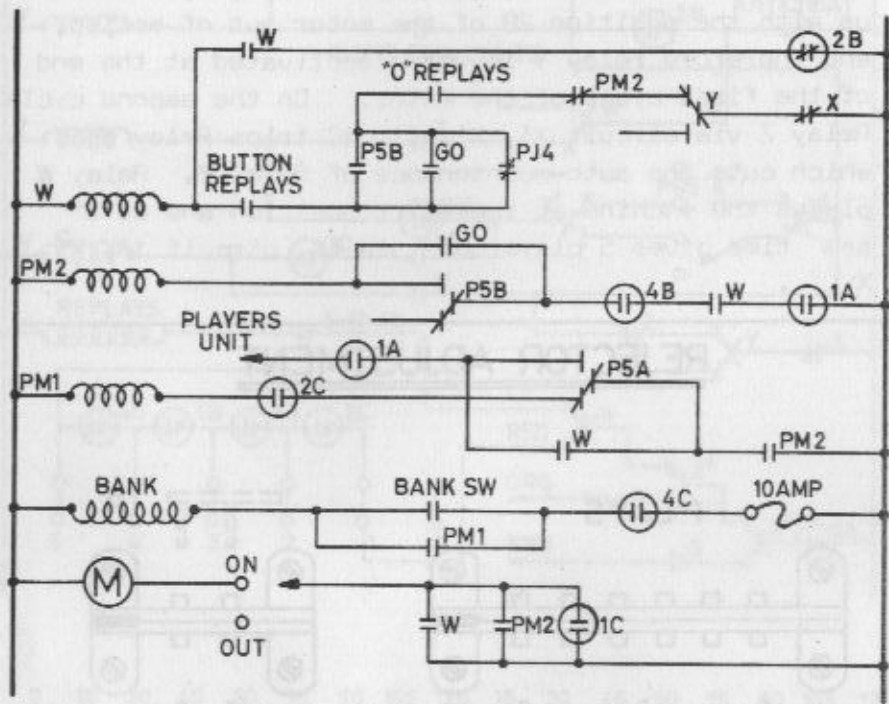
Left:- FROM 0 TO 5 PLAYS PER COIN; AND A FURTHER - PLAY WITH THE SECOND COIN, IF SET AT POSITION "B".

Center:- FROM 1 TO 5 PLAYS.

Right:- FROM 0 TO 5 PLAYS; AND +6 PLAYS IF SET AT - POSITION "A".

N.B. IN ANY ONE MACHINE, REGARDLESS OF NUMBER OF - REJECTORS (1,2 OR 3), ONLY ONE OF THE "A" "B" SELECTIONS CAN BE USED.

START



After pressing the button, Relay W is activated as long as the circuit conditions are satisfied.

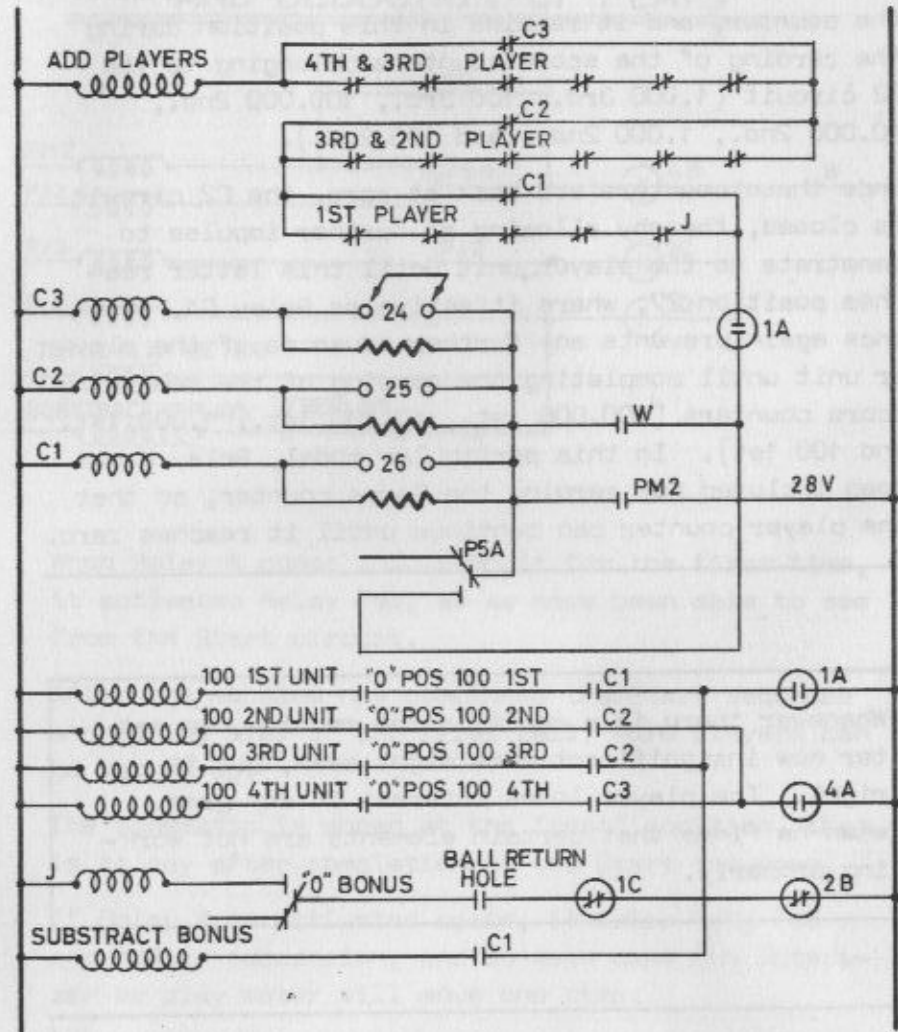
Whilst the motor is at position 4B, Relay PM-2 is activated as long as the GO or P5B conditions are complied with.

Relay PM2 takes the ball/player counter back to zero and when this is at zero, activates relay PM1 whilst the motor is at position 2C.

The ball counter when returning back to zero, provokes the zeroing of the score counters.

Relay PM1 returns the ramp to rest position whilst the motor is at position 4C, and then the machine is ready to play.

ZEROING OF SCORE COUNTERS



During the Start cycle, Relay PM2 carried out the zeroing of the player unit.

When the player unit reaches position 24, the PC disc activates Relay C3 thereby impeding any further advance of the unit until the mentioned relay takes the score counters within its circuit, back to zero (100.000 3rd., 10.000 3rd., 100.000 4th., 10.000 4th., 1.000 4th., and 100 4th.).

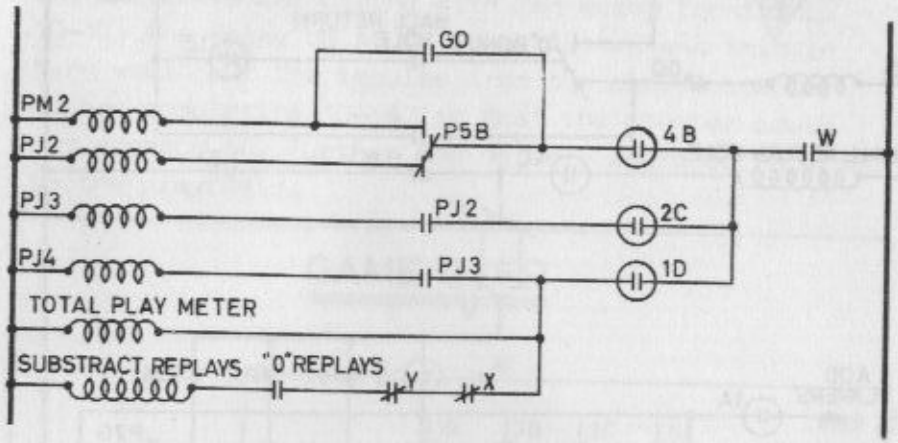
When Relay C3 has performed its function, the player counter moves on one step to position 25, activating Relay C2, thereby cutting out any further advance of the counter, and it remains in this position during the zeroing of the score counters belonging to the C2 circuit (1.000 3rd., 100 3rd., 100.000 2nd., 10.000 2nd., 1.000 2nd., and 100 2nd.).

Once these counters are back at zero, the C2 circuit is closed, thereby allowing a further impulse to penetrate to the player unit until this latter reaches position 27, where it activates Relay C1, which once again prevents any further advances of the player unit until completing the zeroing of the remaining score counters (100.000 1st., 10.000 1st., 1.000 1st. and 100 1st.). In this particular model, Relay J has been included for zeroing the Bonus counter, so that the player counter can continue until it reaches zero.

Whenever there is a cault in the machine, no matter how insignificant this might seem, put it right. The player loses interest in any game when he finds that certain elements are not working properly.

Watch your machine. The lighting both on the play-field and back screen, make it more attractive. Do not let the machine lose this characteristic just because a bulb needs replacing.

ENTRY OF 2nd, 3rd AND 4th PLAYERS AND DEDUCTION OF PLAYS



When Relay W comes into circuit for the first time, it activates Relay PM2, as we have been able to see from the Start circuit.

After the machine has completed the Start sequence and during play of the first ball, more players can be marked up.

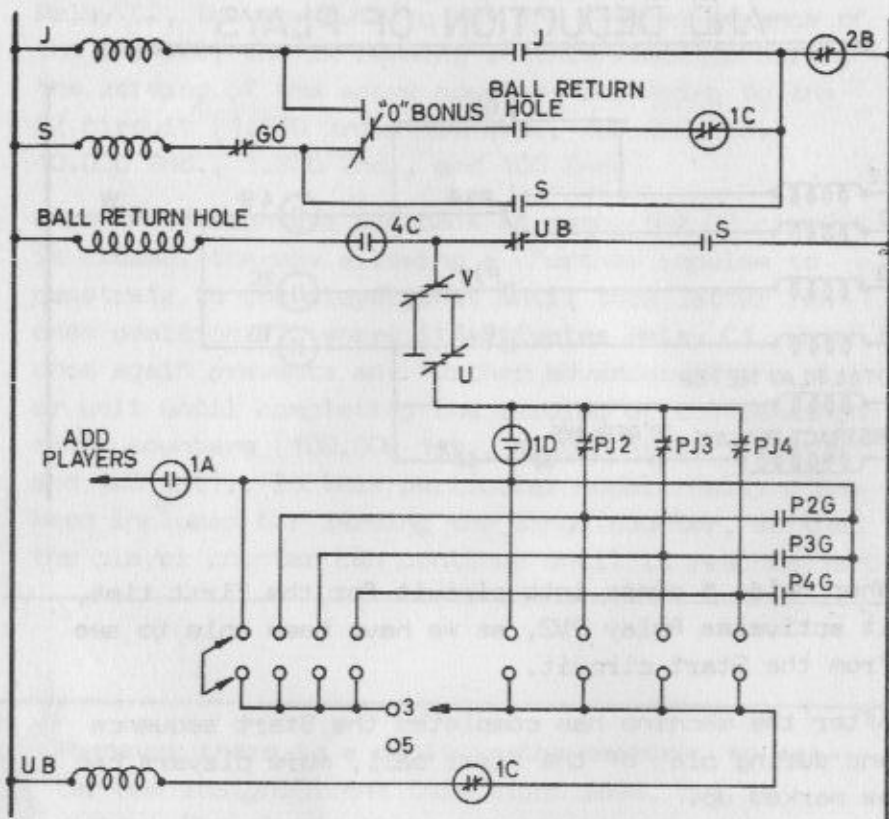
The schematic is shown at the 'rest' position, that is to say after completion of the Start sequence.

If Relay W is activated again, it trips PJ2, PJ3 and PJ4 in succession, and in each case the totalizer or play meter will move one step.

Relay W will deduct the plays as long as it does not work via Relays X and Y, when it will activate the relevant player but without deducting the play, because in this case it is protected by two closed switch groups in Relays X and Y.

VERY IMPORTANT
Use only fuses of the same value as indicated for each function.

BALL RETURN



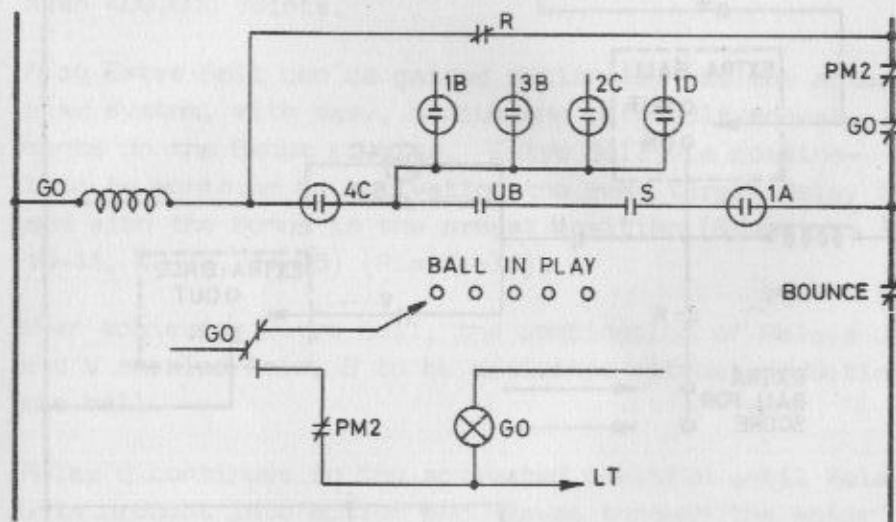
The Ball Return Relay S is activated with the ball in the hole after the Bonus counter has been returned to zero and with the motor at the rest position.

Relay S, working via a contact in the UB Relay (last ball) and with the motor at position 4C, kicks the ball out of the hole.

If condition V (beginning of ball) or U (extra ball) is met during the time that the motor is at position 1D, the same contact in the Relay S sends an impulse to the player counter which will receive up to 4 successive impulses as long as Relays PJ2, PJ3 and PJ4 are not activated, thereby proceeding to return the next ball, or to move on to the next player if any of the PJ Relays are activated.

Should the last ball be in play (3-6), the wiper would then be against the relevant plot. As soon as the ball fell into the hole, Relay S would be tripped and therefore coinciding with the motor (positions 1D-1C) the Relay UB would be activated and this in turn would cut the impulse from the player counter before completing 1D-1A, so that the counter could not advance any further and no ball would be returned to the playfield.

GAME OVER

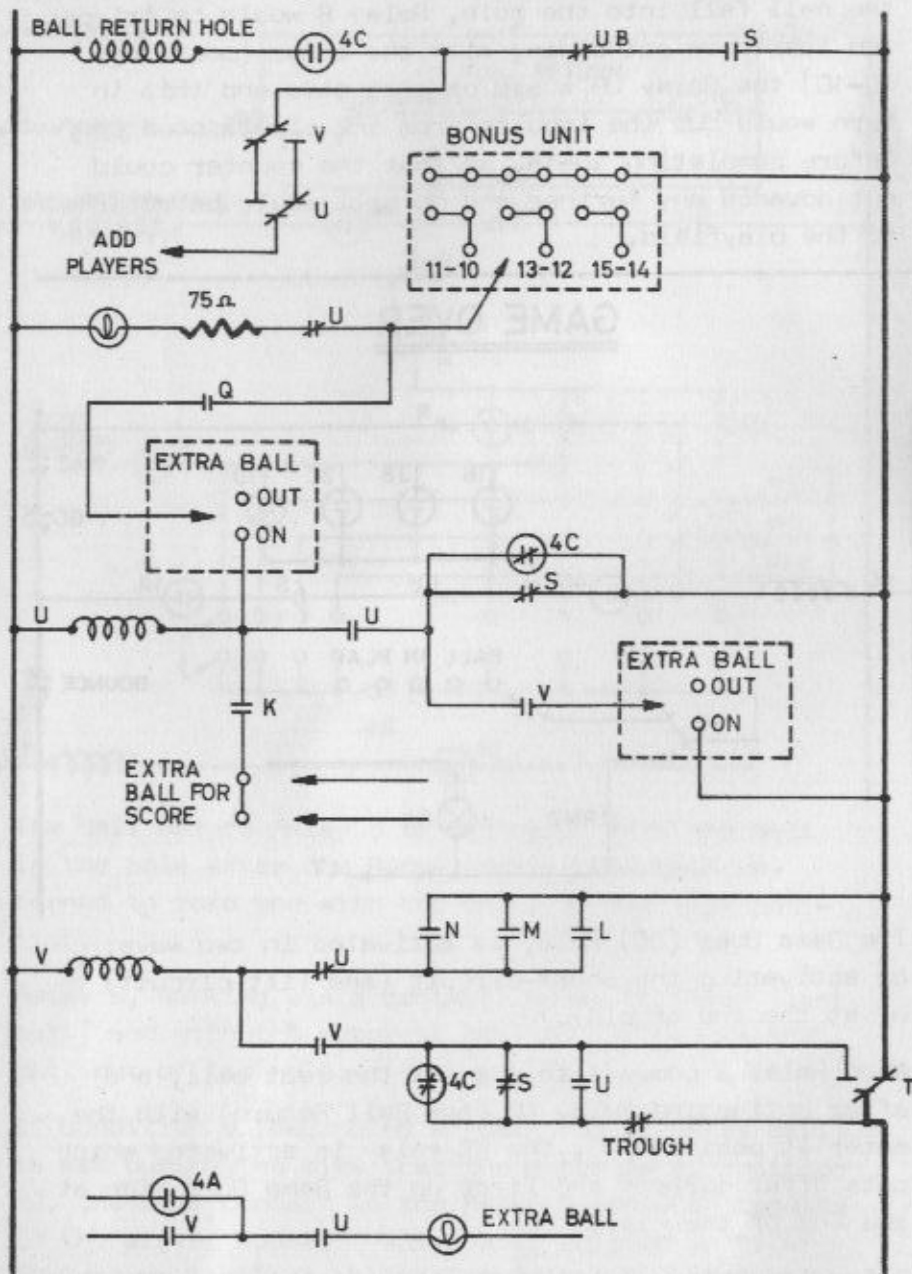


The Game Over (GO) Relay is activated in two ways: by activating the short-circuit (see Tilt circuit) or at the end of play.

When Relay S comes into play at the last ball, and after activating Relay UB (see Ball Return) with the motor at position 4C, the GO relay is activated which cuts off current and lights up the Game Over sign at the end of the Play.

Before reaching position 4C, and via the same GO circuit, the match number is scanned giving a free play if such has been won via the motor positions 1D, 2C, 3D and 1B.

BEGINNING OF BALL AND EXTRA BALL



If Relay V has been activated during play, Relay S will count the ball, but in other cases the ball will be returned to the playfield without deduction.

In the case of Extra Ball, Relay U prevents the cut-out of Relay V by Relay S and it is not disconnected until the Ball passes through the Return Track.

Extra Ball can be obtained directly by your score as per the preset levels, always using the lower male connector required (Lite Box), because if the male connector were set at 300.000, there would be no Extra Ball until Relay K had been reactivated, which would mean 400.000 points.

Also Extra Ball can be gained optionally via the actual play system, with easy, medium and difficult adjustments on the Bonus counter. Extra Ball via combination is achieved by activating the ramp target Relay Q and with the Bonus in the preset position (Bonus at 10-11, 12-13, 14-15) (Playfield).

When achieving Extra Ball, the combination of Relays U and V enables Relay S to be activated without deducting the ball.

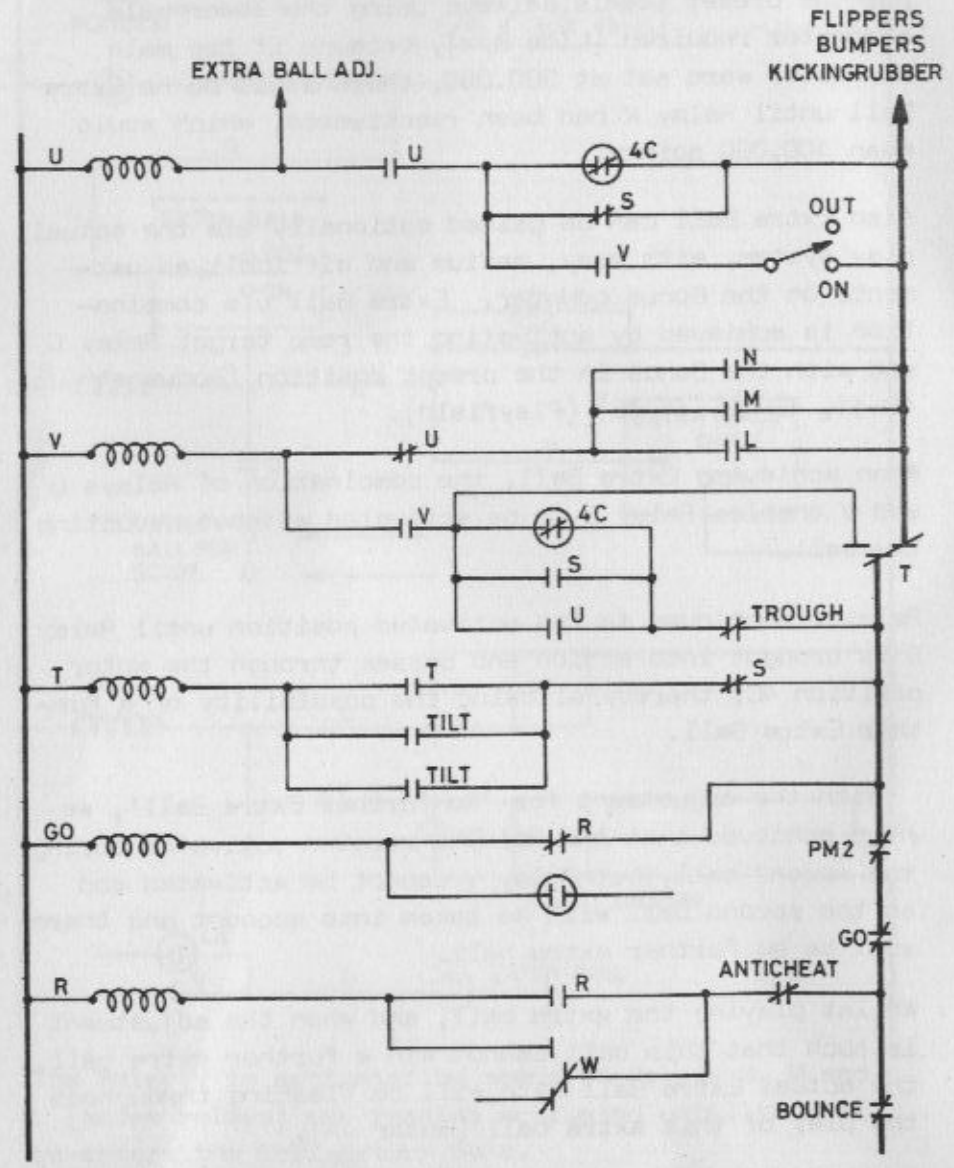
Relay U continues in the activated position until Relay S is brought into action and passes through the motor position 4C, thereby allowing the possibility of a further Extra Ball.

With the adjustment for 'No further Extra Ball', we have achieved that the Relay U remains activated during the second ball, but Relay V cannot be activated and so the second ball will be taken into account and there will be no further extra ball.

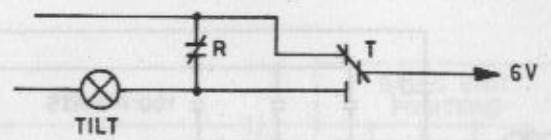
Whilst playing the extra ball, and when the adjustment is such that this ball cannot win a further extra ball, the actual Extra Ball lite will be flashing throughout the play of this extra ball (motor 4A).

The extra ball lite on the ramp, when Lit, will be turned off as soon as an extra ball is won and will continue unlit during the play of the extra ball even after completing the circuit. In the case of 'No further extra ball', this lite will be switched off during the play of the extra ball.

ANTI-CHEAT AND CUT-OUT UNITS



ILLUMINATION TILT



Relay T is connected to the Tilt contacts (Pendulum and Ball Roll Tilt) and is disconnected with the entry of Relay S.

Relay T lites up the Tilt sign and cuts off the service to the play relays and mechanisms (Flippers, Bumpers, Kickers).

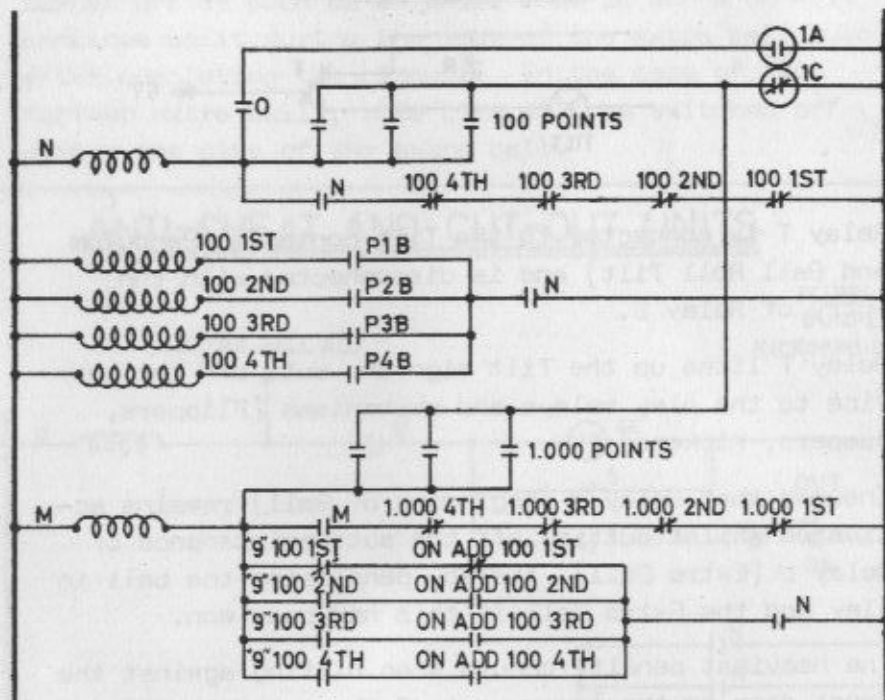
Ensures that Relay V (beginning of Ball) remains activated whilst cutting off the auto-maintenance of Relay U (Extra Ball), thereby penalising the ball in play and the Extra Ball if this had been won.

The heaviest penalty occurs when hitting against the front door or the lower part of the cabinet, because in such cases the auto-maintenance of Relay R is cut off, and the circuit passes on to Game Over (GO), thereby finishing the game at that particular point. Game Over and Tilt signs are then lit up for all players.

Relay R which is shown in the schematic at the 'rest' position, is activated by the Start sequence (Relay W) and is held in auto-maintenance.

Once you have levelled up the machine, check that the pendulum and ball roll tilt units are set correctly, in order to prevent Tilt at involuntary or critical moments.

SCORE UNIT



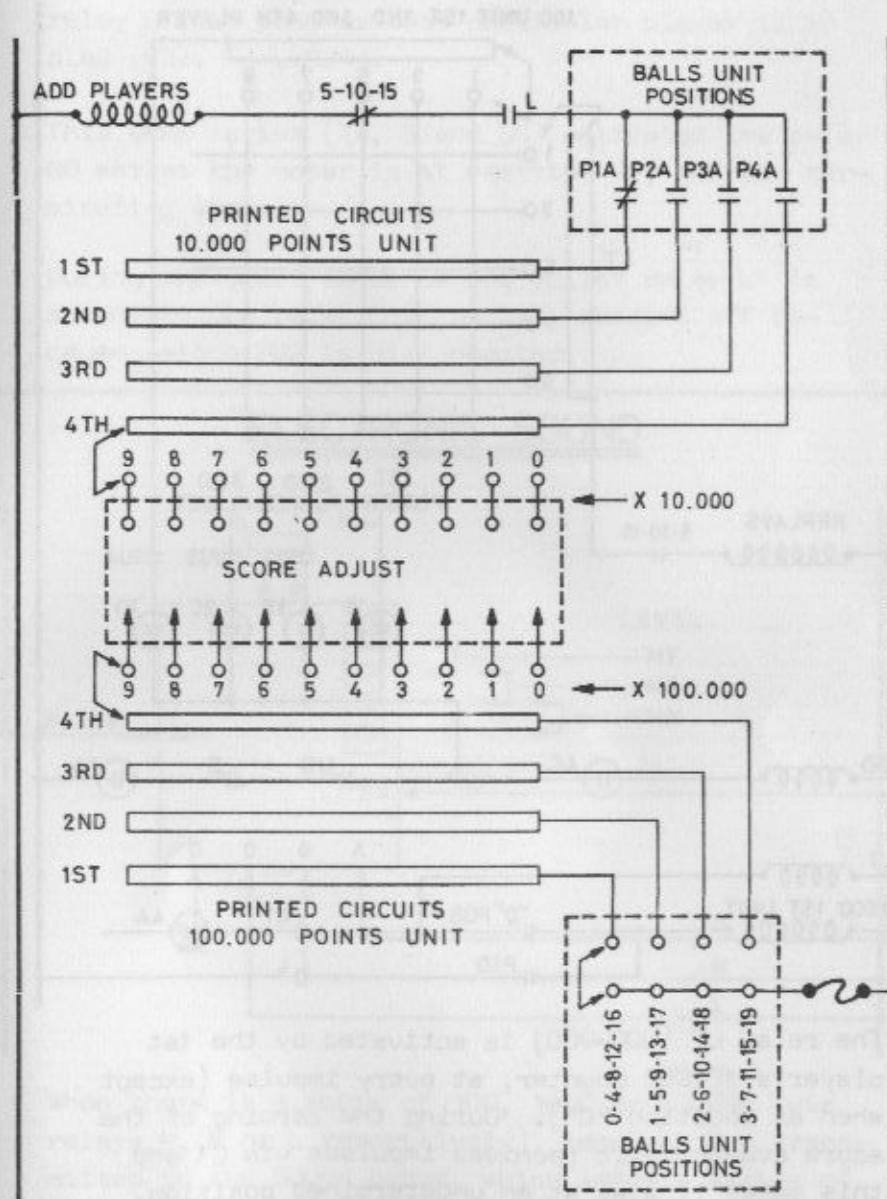
The score switches with a single impulse, are cut off by the motor in such a way that whilst the motor is turning, no score is given.

The multiple scores (for example, 500 points) activate their relevant relay (relay O) and it is this latter, via motor position 1A, that performs the scoring function.

Each impulse received by the score relays (for example N), is transmitted by the player counter (P1B, P2B, P3B, P4B) to the respective counter. This counter when activated, opens the relevant switch in the automaintenance sequence of the relay (N).

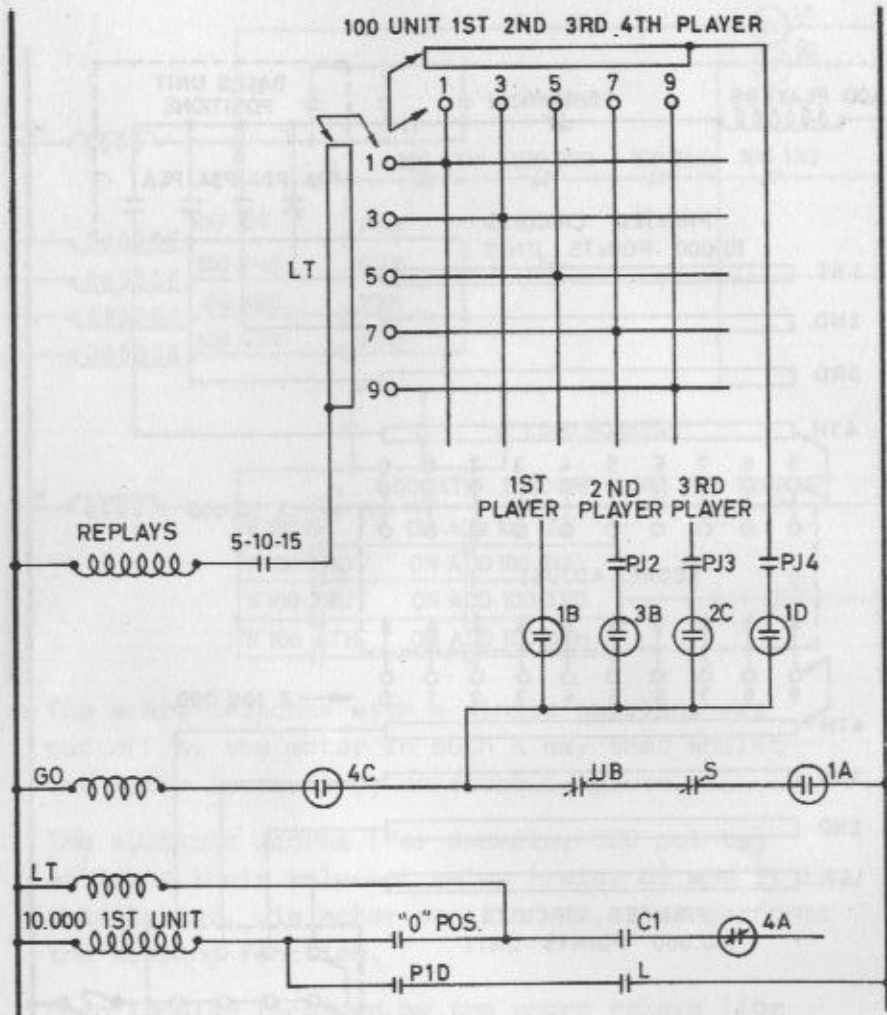
When a counter (100 1st) is at position "9", this closes the step switch to the following relay (M) and when a new impulse is received, the relevant series is closed giving the 10th impulse to the following relay (M).

SCORE REPLAYS



The free plays given as a result of high scores, are obtained when the player counter coincides with the predetermined adjustment set on the 100.000 - 10.000 score counters (lite box), when an impulse is produced from relay L.

RELAY LT 000-900



The relay LT (000-900) is activated by the 1st player's 10,000 counter, at every impulse (except when at position "0"). During the zeroing of the score counters, it receives impulses via C1 and this makes it stay at an undetermined position.

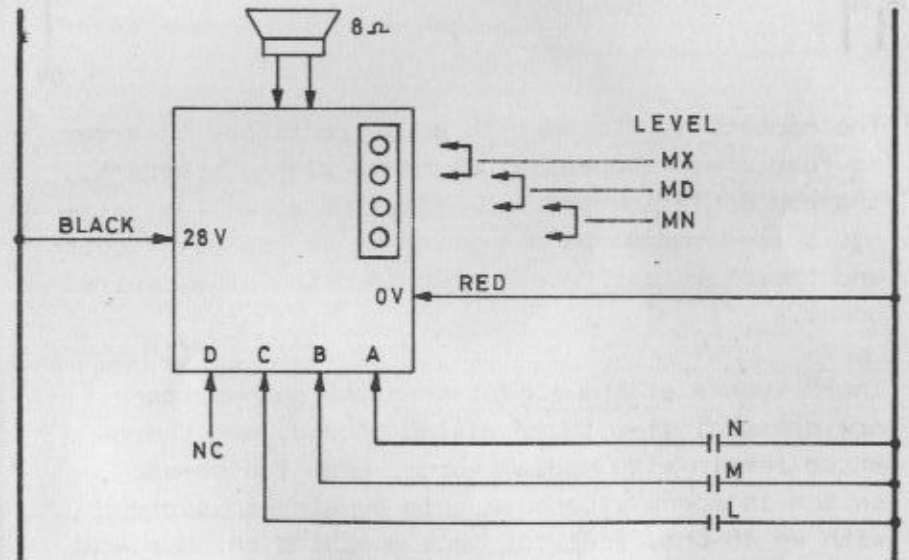
When the last ball falls into the ball return hole this activates UB and S (see Ball Return) via the series 1A, S, UB. Whilst the motor is at position 1D, 2C, 3B and 1B, the situation of the score counters is scanned, for the 4th, 3rd, 2nd and 1st

players respectively and in this order, and first play is given to the player that coincides with the relay LT, as long as that particular player is in play (PJ2, PJ3, PJ4).

This same series (1A, S and UB) activates the relay GO whilst the motor is at position 4C, thereby terminating the play.

During the Start sequence and whilst relay LT is advancing via relay C1, the lite remains off because switch PM2 is disconnected.

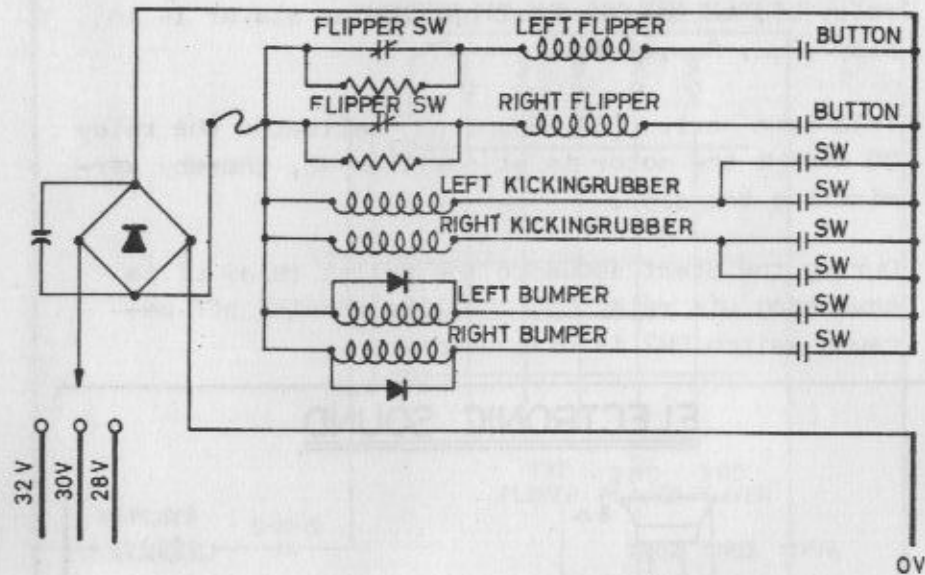
ELECTRONIC SOUND



When there is a score of 100, 1000 or 10,000 (via relays N, M or L respectively), impulses are transmitted to the Sound board, which sends a series of impulses to the loud-speaker, at a frequency which corresponds to the input (A, B, C or D) that has received the original impulse.

The volume can be adjusted to three levels :
Maximum (MX), Medium (MD), Minimum (MN)

T BUMPERS, FLIPPERS AND RUBBER KICKERS

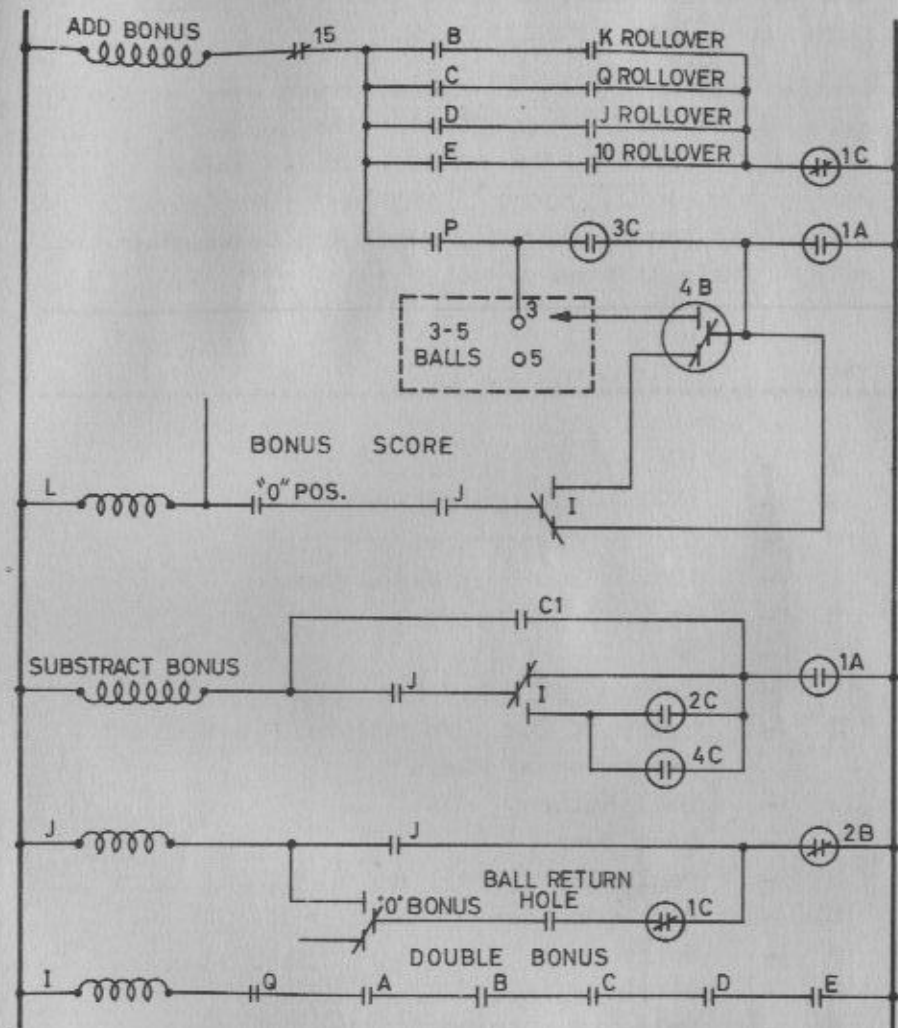


The machine is fitted with an AC rectifier in order to feed these mechanical elements with DC current, thereby achieving greater effectiveness. The voltage is determined by a setting at 28, 30 or 32 volts and therefore can be adjusted to obtain the desired power.

The flippers at the moment when the push-buttons are pressed, give their maximum force, and thereafter remain with medium force, when the on-add switch is opened, because this remains in series with an 18 ohm. resistor thus avoiding any burn-out of the coil even if it remains activated for a long period of time.

The mechanical playboard elements as well as the contacts are vital to achieve maximum efficiency of the game. Give your machine regular servicing. **THIS IS VERY IMPORTANT.**

U BONUS



The bonuses advance through the 10-J-Q-K rollovers when lit (activating relays B, C, D, E) or with the targets which score 5000 points (relay P); with relay P you can obtain 2 or 1 bonus advances, depending on whether the machine is set at 3 or 5 balls. The zeroing of the bonuses is obtained via relay J or with C1 (back to zero). The counter is brought back to zero in steps of 5 (simple bonus) or 2 (double bonus).